Extension
UNIVERSITY OF WISCONSIN-MADISON

Rotational Grazing

SERIES | Practical Approaches in Karst Areas

Rotational grazing is a form of production agriculture that livestock operations of all sizes can use to lower costs of production, benefit the environment, and bring more flexibility to their schedules.

What is rotational grazing?

Rotational grazing involves moving a group of livestock through pasture of high-quality grasses and legumes and maintaining high enough stocking rates so that the entire pasture forage height is grazed off before animals are moved to a fresh section of pasture. The grazed pasture is then allowed to rest and regrow before it is grazed again.

This method spreads fertility-building manure, contributes to soil health, cleans up weed species, strengthens root systems, and allows legumes to compete against taller, faster growing grasses. Pasture plants under well-managed rotational grazing are more vigorous, nutritious, and digestible than those in unmanaged pastures and are comparable to any forage system. As a result, livestock are healthier and more productive.

Why use rotational grazing?

Farmers using rotational grazing often describe it in terms such as "less stressful" or "family-friendly." Practical benefits come along with the lifestyle improvements.

a. **Economic Benefits.** Most farmers who try rotational grazing do so because it can save them money and maximize profitability. Both start-up and maintenance costs are less than forage systems utilizing mechanical harvesting and feeding. If you have already invested in a confinement feeding system, maintenance costs are reduced because the system is used only during the cold months. Once in operation, grazing reduces the costs of equipment, fuel, chemicals, labor, and manure hauling. Rotational grazing can also greatly increase the amount of forage harvested compared to continuous grazing.

b. **Time Savings.** Some farmers are reluctant to try rotational grazing because of the time it takes to move livestock. However, most farmers find that moving is less time consuming than cutting and hauling hay, feeding livestock, and transporting manure under a forage system. Farmers with large cattle herds find that moving 250 to 500 head at a time takes no longer than moving 50 head.

c. **Environmental Benefits**. Compared to cropland, well-managed pastures decrease soil erosion, require only minimal fertilizer and pesticides, greatly reduce the threat of barnyard runoff, and increase soil carbon. Grazing can help reduce high soil phosphorus levels and nitrogen leaching to groundwater that can result from excessive manure and fertilizer applications. Cropland converted to well-managed pasture can also benefit wildlife. Pasture provides good habitat for nesting game birds and other wildlife, can help reverse the declining populations of grassland birds, and protects surface water habitat for fish and other aquatic life.

d. **Livestock Health.** Many farmers have reported fewer livestock health problems after switching to rotational grazing. Improved livestock health from grazing results in reduced veterinary and hoof trimming costs as well as birthing improvements which, as a result, can lead to better farm profitability. Risks associated with exposure to severe weather or predators may increase with rotational grazing but can be controlled with a well-designed grazing plan.

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Information about Wisconsin's karst areas is available on the Wisconsin Geological and Natural History Survey web page:

wgnhs.wisc.edu/water-environment/karst-sinkholes

Photos: above – Kevin Erb; in circle – Wisconsin NRCS

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What are some considerations related to rotational grazing?

While rotational grazing practices and management styles may change from farm to farm, almost any tract of land or species of livestock can be successfully rotationally grazed. During the development of your grazing plan, management practices will be chosen that best fit your operation and its challenges. When starting rotational grazing, it is recommended that, at a minimum, a farmer select all of one animal type (e.g., heifers) to graze.

A successful rotational grazing farm typically has well-thought-out management practices in mind. This includes monitoring data and grazing records that can be used on a regular basis within the designed grazing plan to ensure objectives are being met or to make necessary changes to meet objectives. Key objectives in a successful grazing plan include enhancing and maintaining the quantity, quality, and diversity of forage and the proper intensity, timing, and duration of grazing to reduce animal stress. When farmers successfully meet these objectives, they are rewarded with the economic and environmental benefits, increased profitability, and time savings that rotational grazing has to offer. Other key considerations for a successful rotational grazing farm include a system design that protects environmentally sensitive areas, maintains a minimum of 4 inches of forage height and, if using hired help, employs workers who have an interest in working with animals.

Rotational grazing is a suitable option for the karst areas of Wisconsin where shallow soils pose challenges to agricultural production. A farm can achieve the same benefits through rotational grazing in these areas; however, additional management actions, such as ensuring pastures are fully established and creating a well-designed wintertime management plan, are needed to achieve success.

When transitioning into rotational grazing, your biggest investments are land and cattle. Those are appreciable assets and give you some flexibility later to make changes without a high depreciation cost.

Which regulations apply to farms using rotational grazing?

Rotational grazing is regulated by both state and local governments through NR 151 and local ordinances. All farms, including rotational grazing operations, must develop and maintain a nutrient management plan that meets the requirements under NR 151. Local ordinances may also have additional requirements, and a farm considering rotational grazing should contact their county land and water conservation department when developing a rotational grazing plan.

However, rules that apply to rotational grazing are significantly less stringent compared to those regulating forage systems where much of the manure is mechanically applied through spreaders and other equipment. Well-maintained pastures are exempt from certain rules such as the NR 151 Silurian Bedrock Performance Standard as well as the setback requirements that apply to mechanical applications of manure. A pasture or grazing area may also operate without a WPDES permit where it otherwise would have been required with livestock raised under a forage system.

Financial assistance is available to farmers looking to begin or grow rotational grazing on their operation. To apply for financial assistance, work with your county land and water conservation department and Natural Resources Conservation Service (NRCS) office to develop a grazing plan that works for you. It is also recommended to reach out to other producers who are practicing rotational grazing. There are excellent networks of support available through many organizations such as GrassWorks (**https://grassworks.org**).

Summary:

Well-managed rotational grazing offers many benefits including reduced costs of equipment, fuel, chemicals, and labor, reduced environmental risks, time savings, and increased profitability. A successful rotational grazing operation has a grazing plan that is carefully considered and implemented. There is technical expertise and financial assistance available to help any farmer begin the planning process.

This fact sheet series is designed to provide an introduction to a variety of conservation practices that can reduce the risk of groundwater contamination in the Silurian dolomite (karst) areas of eastern Wisconsin. Work with your local conservation agency staff or UW–Madison Division of Extension to learn more about implementing these practices on your farm.